

Healthy Children Ready to Learn: An Essential Collaboration Between Health and Education

ANTONIA C. NOVELLO, MD, MPH
CHRISTOPHER DEGRAW, MD, MPH
DUSHANKA V. KLEINMAN, DDS, MScD

Dr. Novello is the Surgeon General of the Public Health Service. Dr. DeGraw is Coordinator of Children and School Programs at the Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health. Dr. Kleinman is Deputy Director of the National Institute for Dental Research.

Tearsheet requests to OASH Office of Public Affairs, Humphrey Bldg., Room 717H, Washington, DC 20201.

Synopsis

The "Healthy Children Ready to Learn" initiative starts with the underlying concept that health is a critical partner to optimum education. All children have a right to be healthy. At a minimum, this right assumes promoting optimum use of available and effective preventive measures, such as ensuring compliance with immunization recommendations; promoting measures to prevent injuries; ensuring opportunities to identify disease and disabilities early; and providing prompt treatment when needed. Families must receive the support and assistance they need to raise healthy and educated children.

Activities directed toward National Education Goals and the related National Health Promotion and Disease Prevention Objectives can advance progress toward school readiness, focus attention and available resources on needed programs and services, and thus help the nation in achieving its goal of having all children arriving at school each

day healthy, well nourished, and ready to learn. To realize these goals and objectives, the two critical systems of greatest importance to children, those providing health services and education, need to collaborate, not only among themselves, but also with social services.

A range of critical health problems will require our attention if the goals are to be met, such as availability of prenatal care, infant mortality, inadequate nutrition during pregnancy or early childhood, or both, disease prevention by immunization, infants who have been exposed to drugs, fetal alcohol syndrome, and the emotional and mental disorders of early childhood, to name a few. At any one time, any family may be in need of appropriate services. To address the health and well-being of their young children, a continuum of appropriate, accessible services must be available in the community.

The first steps toward successful achievement of the readiness goal will require the identification of health, education, and social service programs that serve young children and their families, and the creation of a climate that fosters innovative and effective collaboration between programs at the Federal and State levels, especially as it pertains to the community. Policies and programs should be built around the needs of families. In this regard, the critical role that parents play in shaping a healthy environment conducive to school readiness must be recognized as a key element in shaping the strategies that should help in achieving the readiness goal. Similarly important is the need to engage professional organizations and other private sector groups involved with health, education, and other children's issues to work with government and families to achieve the school readiness goal and its related health objectives.

SOCIETY IS SLOWLY COMING TO THE REALIZATION that the health status of children and their educational development are inextricably linked. A child must be physically and emotionally healthy in order to learn, and a child and the child's family must be educated in order to stay healthy.

While this is true for children of all ages and at all stages of development, it is particularly apparent in early childhood. Concurrent with this realization, national goals to be achieved by the year 2000 were set recently for education as well as for health (1, 2). If taken together, activities directed

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toward the first National Education Goal and the related National Health Promotion and Disease Prevention Objectives can advance progress toward school readiness, focus attention and resources on needed programs and services, and help the nation to achieve its goal of having all children arriving at school each day healthy, well nourished, and ready to learn.

The President and the State Governors have set six National Education Goals to be reached by the year 2000 (1). The first is "By the year 2000, all children in America will start school ready to learn." Three objectives define the components of this readiness goal (see accompanying box). Two critical and interrelated factors, health and education, are implicit or explicit in this goal and in each of the three objectives.

The health component of the first National Education Goal transcends all three readiness objectives. In order for parents to participate as their children's first teacher, their own health and education needs must be addressed as well. All children, including the disadvantaged and those with disabilities, must have their health and education needs assessed throughout their growth and development years. This should allow them not only to realize their full developmental potential, but to keep incipient disabilities or pathological conditions from progressing. Throughout their lives, the health and education needs of children should be addressed in tandem.

Healthy People 2000

A set of 300 national health promotion and disease prevention objectives to be achieved by the year 2000, called Healthy People 2000 (2), has been developed under the leadership of the Public Health Service. Of these, more than 170 objectives relate to the health of mothers, infants, children, adolescents, and youth (3). Similarly, many of the Healthy People 2000 objectives complement the National Education Goals. Achieving national

health promotion and disease prevention objectives is basic to advancing progress toward the school readiness goal.

The national health objectives highlight important problems affecting the health of young children that are amenable to preventive measures and that relate to school readiness. Among them are

- maternal health and prenatal care;
- immunization;
- access to high quality and developmentally appropriate preschool programs;
- nutrition issues, including iron deficiency, breast feeding, nutrition education, and nutritious child care food services;
- exposure to tobacco smoke;
- mental health;
- the importance of assessment by providers of primary health care of the child's cognitive and emotional development, and parent-child functioning;
- violence and child abuse;
- injury prevention;
- reducing mental retardation;
- persistent environmental problems, such as lead poisoning;
- oral health;
- asthma;
- screening for impairment of vision, hearing, speech, or language, developmental milestones, and chronic disease; and
- financing of preventive services.

The two sets of national goals and objectives provide guidance for identifying, prioritizing, and addressing health problems at the national, State, and community levels. In order to realize the goals and objectives, two critical systems—those providing health services and those providing education—need to collaborate, not only among themselves, but also with social services. Historically they have not always done so. Today, however, health care providers are increasingly focusing on prevention as well as treatment of disease and disability, and on the developmental as well as the physical needs of their young patients. Similarly, educators are recognizing that many additional factors, such as social, economic, health, and nutrition factors, affect their students' abilities to learn.

The Need for Collaboration

Health, education, and social service professionals increasingly recognize that they must collabo-

rate closely to meet the needs of the children and families they serve. A team that consists of parents and providers of other relevant services as full partners is needed to provide a continuum of services that fosters optimal development of the child from the prenatal period through early school years.

Many factors, such as economics, come to bear on a child's health, development, and nutritional status, and consequently on the child's readiness for school. The National Center for Health Statistics data shows that in 1988, 12.6 million children younger than 18 years were living in poverty; with black and Hispanic children three times more likely than white children to be living in poverty. In 1989, more than 24 percent of all children younger than 18 years lived with one parent only. Data show that black children are three times more likely than white children to be living with a single parent (4).

Single parent living arrangements also directly affect family income, as evidenced by findings for 1989, when 44.7 percent of children living only with their mothers were poor. Studies show that children whose families earn less than \$20,000 per year had fewer physician contacts than those whose families earn more. Children from families earning less than \$20,000 had 40 percent more hospital days, suggesting that children from poorer families do not receive health care until later in the course of their illnesses and as a result require more hospitalizations (4).

The Importance of Prenatal Care

The process of ensuring that a child arrives at school healthy, well nourished, and ready to learn begins with the health of the child's parents. Today, however, more than 14 million women of reproductive age have no insurance to cover maternity care (5). Early, high-quality prenatal care, including attention to maternal nutrition, illness, smoking and alcohol or other drug use, psychological health, and other risk factors, is critical to improving pregnancy outcomes, especially low birth weight. While necessary for all pregnant women, prenatal care is especially important for women at increased medical or social risk. Maternal characteristics associated with receiving late or no prenatal care include low socioeconomic status, less than a high school education, teenaged pregnancy, or high parity (6). Women who are substance abusers also are less likely to get prenatal care (7).

Between 1970 and 1980, there was a significant trend toward increasing early entry into prenatal

care for the groups with the lowest levels of care. Since 1980, among all racial and ethnic groups, however, the proportion of women who begin prenatal care in the first trimester of pregnancy has reached a plateau (2a). The increase between 1982 and 1987 in the proportions of women not receiving care until their third trimester or receiving no care has been of particular concern. According to 1987 data, nearly 40 percent of pregnant black women and 39 percent of Hispanic women failed to receive early prenatal care (2a). Recent congressional mandates expanding Medicaid eligibility have resulted in more women being eligible for prenatal and postpartum care (8,9). Yet persistent barriers, including a growing shortage of obstetrical care providers, as well as language and cultural barriers remain.

Infant Mortality and Related Risks

Although gains have been made in recent years and infant mortality is steadily improving, it still remains a problem here in the United States. In 1988, a total of 38,910 infants died before their first birthday, and the infant mortality rate for blacks remains twice as high as the rate for white infants (10). In the presence of these disparities, the problem must be addressed.

While not all babies of normal birth weight are automatically healthy, and not all low birth weight babies are automatically at a disadvantage, the evidence shows that being born at low birth weight places a baby at greater risk. When babies of normal birth weight are compared with low and very low birth weight babies, they have 7 to 10 times the risk of severe developmental problems, such as severe cerebral palsy, blindness, deafness, and retardation. They also have two to three times the probability of poor school performance as they are more likely to have chronic health problems. In essence, when low birth weight is combined with poverty, the child faces what has been referred to as "double jeopardy" (11).

Adequate Nutrition and Oral Health

Pregnant women and their children will require adequate nutrition if the children are to grow and develop normally. It has been shown that when infants and young children lack adequate nutrition, their growth can be slowed, they may be more susceptible to illness, and, as a consequence, they can be at greater risk of neurodevelopmental problems that impair learning (12). Undernutrition and

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inadequate food intake, primarily among low-income and certain minority populations, still exist in this country (13). Nutritional problems, such as iron deficiency anemia, are known to affect pregnant women and children and are frequently associated with poverty.

While there is debate over the prevalence of childhood hunger in America, with estimates of the number of children who experience hunger ranging from 2 to 5.5 million, the National Commission on Children found that the problem has increased during the past decade (12). Programs such as the Special Supplemental Food Program for Women, Infants, and Children (WIC) and the nutrition components of the Head Start Program can play an important role in addressing the problem of inadequate nutrition during pregnancy and early childhood, and have the potential to link nutrition to other important health services affecting young children and their families.

Similarly, the pain and suffering some children undergo due to untreated extensive dental caries is unnecessary. Unfortunately, early and regular dental care among children is far from universal. In 1986, only 25 percent of children aged 2 years had ever visited a dentist (14). Early and periodic assessments of oral health are necessary not only for diagnosis and treatment of existing disease but for the delivery of primary preventive services such as fluorides and sealants. Equally important is the accurate and early diagnosis and prompt treatment of congenital anomalies, such as cleft lip or palate, to minimize disability and other adverse sequelae.

Timely and Appropriate Immunizations

Health care in early childhood has emphasized the prevention and control of infectious diseases through timely immunization. The current measles

epidemic provides an indicator that the nation's provision of this traditional and key preventive service needs to be reexamined. The recent report of the National Vaccine Advisory Committee points out that the majority of the cases of measles occurred among unimmunized preschool children who came primarily from minority communities in inner cities (15). That report clearly demonstrates that the principal cause of this rise in childhood measles has been the fact that children are not receiving immunizations on time. The National Vaccine Advisory Committee reports that many opportunities for vaccination are lost when children do not receive all vaccines they need at a single visit or are sent home without vaccination because of invalid contraindications, such as a minor illness.

Innovative ways to ensure that all children are immunized on time are needed. As an example, many unvaccinated children could be reached through a strengthened emphasis on immunizations in such public programs as WIC and Aid to Families with Dependent Children. Out-of-home child care, which encompasses an increasing number of infants and young children, offers another potential opportunity to improve immunization rates.

Injury Prevention

In 1988, injuries, many of them preventable, remain the leading cause of death in childhood, claiming the lives of more than 22,400 children ages 19 years and younger in the United States (16). It is estimated that more than 30,000 children suffer permanent disabilities from injuries each year, many resulting in subsequent learning problems and school difficulties. For young children between the ages of 1 and 4 years, injuries claim more lives than all other causes combined, requiring about 65,000 annual hospitalizations among those in this age group. Increased awareness of the preventable nature of many injuries long referred to as accidental, and the adoption of proven measures to prevent and minimize injury, are becoming a necessity. Healthy People 2000 objectives call for increased efforts in reducing the growing burden on children of violence and intentional injuries, including child abuse and homicide.

HIV Infection Among Children

New issues are emerging to challenge the health and education systems. Through August 1991, 3,253 children with acquired immunodeficiency

syndrome (AIDS) who were younger than 13 years were reported to the Centers for Disease Control. Of them, 84 percent were infected perinatally, and 52.5 percent have already died (17). These figures do not reflect the even larger number of children infected with HIV, many of whom are symptomatic but do not yet meet reporting criteria for AIDS. In addition, while 20 to 30 percent of all children born to women infected with HIV will go on to be infected themselves, the 70 to 80 percent who are spared infection will, nevertheless, suffer from the devastating impact of losing their mother, father, or siblings to the HIV infection, and will carry the stigma of the disease as if they were infected with the virus themselves.

Drug-Exposed Infants and Children

Schools and health care providers already are beginning to deal with the effects of crack cocaine and other substance abuse by pregnant women. While recognizing that determination of the true substance exposure rates among pregnant women is difficult, current estimates of the number of crack- or cocaine-exposed newborns range from 30,000 to 100,000 or greater annually (18). Prenatal cocaine exposure can lead to premature birth, low birth weight, birth defects, and respiratory and neurological problems (19). In addition to these biological vulnerabilities, the social environment to which these infants are exposed postnatally can affect subsequent development and educational potential (20).

As the results of long-term studies on drug-exposed infants begin to emerge, researchers are predicting that older children who were exposed to drugs prenatally may need specialized educational services that cannot be provided by the average day care facility, preschool, or kindergarten (21). Even more prevalent than the effects of cocaine abuse, each year fetal alcohol syndrome affects nearly 5,000 babies and is the third leading cause of birth defects associated with mental retardation. Thousands more children are born with fetal alcohol effect, a milder form of fetal alcohol syndrome but no less devastating (22).

A General Accounting Office report notes that drug-exposed infants have more health problems and higher medical costs than infants not exposed to drugs. In addition to costly medical treatment, the impact of these drug-exposed infants on the social welfare system is high. The report notes that without intervention, such children may be expected to have major problems in school and high

dropout rates (23). Clearly, primary prevention measures are needed, as well as measures to prevent the health, educational, and social sequelae of maternal drug use on exposed infants.

Emotional and Mental Development

Increasingly, attention is being paid to the healthy emotional and mental development of infants and young children. New knowledge about the earliest years of life tells us some important things about infants. Infants learn, respond, and interact from the earliest moments of their lives and are even more vulnerable than older children to emotional and social deprivation, as well as to physical injury. Development in the early years is too important to leave to chance.

Factors such as poverty, abuse, or neglect, and disturbed family relationships are known to increase the risk of emotional dysfunction and mental disorders in infants and young children. Yet their obvious consequences are not always documented until children's learning or behavioral problems are noticed when they reach preschool or school (24). The emotional and mental disorders of early childhood need to be addressed before they lead to school failure and behavioral problems.

The Office of Technology Assessment of the Congress estimates that of the 7.5 million children of all ages who need mental health treatment, only about 2 million actually receive it. Increasing the understanding of how biological, psychological, and social factors interact in children's development is likely to lead to many more specific measures that can be used to prevent, in a timely fashion, delays and impairments in young children's cognitive, social, and emotional development (25).

Children with Disabilities

While all infants and young children potentially can have health needs affecting their subsequent school readiness, the needs of children with disabilities or chronic illnesses require particular attention. They are especially at risk of school failure. Such children and their families have special health care needs requiring early identification, diagnostic and evaluation services, treatment services, habilitation and rehabilitation services, dental services, nutrition services, and family and child education and counseling services.

In the past, education and health professionals have seen themselves addressing different needs of

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these children, joined at times only by the fact that they were serving the same population. Now the education and health systems, one primarily public and tax-supported and the other supported by a complex mix of public and private resources, struggle with a common set of problems and barriers as they seek to enhance the services provided to these children and families (26). Public Law 94-142, the Education for All Handicapped Children Act, and Public Law 99-457, the 1986 amendments to this act, which establishes programs of early intervention for infants and young children, have laid the groundwork for collaboration, resulting in improvements in services to these children and their families.

The health, education, and social service needs of children with disabilities and those at risk for disabilities have helped the health care community to identify deficiencies in services. We now realize better the importance of ensuring the availability of coordinated, comprehensive, community-based, family-centered, and culturally sensitive services for these children and their families. A continuum of appropriate, accessible services must be available in the community for this to succeed.

An Integrated Approach

Programs such as Head Start, that concurrently address the health and education needs of children, are examples of an integrated approach to both health and education services that have been known to work. The demonstrated long-term benefits of quality early childhood programs on school achievement, graduation rates, and participation in the work force emphasize the importance of this approach. In addition to Head Start, WIC, coordinated early intervention services being developed under Public Law 99-457, and specific projects, such as the Chicago Beethoven project, the Perry Preschool Project in Michigan, and Project Giant

Step in New York City, provide other examples of this integrated approach.

The Initiative

The Administration, cognizant of the need to link education and health, has asked the Surgeon General to "mobilize the nation" toward realizing the health component of the first national education goal. With the help of an ad hoc group of Federal leaders from the Presidential staff offices, and the Departments of Health and Human Services, Education, and Agriculture, the Surgeon General has initiated several key activities establishing the basis for the Healthy Children Ready to Learn Initiative. Starting with the underlying concept that health is a critical partner to optimum education, three operating principles for this initiative have been advanced.

To start, all children have a right to be healthy. At a minimum, this includes promoting optimum use of available and effective preventive measures, such as ensuring compliance with immunization recommendations; promoting measures to prevent injuries; ensuring opportunities to identify disease and disabilities early; and providing prompt treatment when needed.

Second, a "good science, good sense" approach is needed. Promising program options need to be identified and evaluated and effective models disseminated for replication.

Third, healthy children, ready to learn, come from healthy families. Educated men and women form the basis for a healthy nation, a nation ready to be productive and innovative. Families must receive the support and assistance they need to raise healthy and educated children. Furthermore, the needs of special populations, whose children may inadvertently be at increased risk for disease and disability, also must be addressed. Communities must be encouraged to promote health and emphasize disease prevention.

Initial steps toward successful achievement of the readiness goal require identification of health, education, and social service programs serving young children and their families, and creating a climate that fosters innovative and effective collaboration between programs at the Federal and State levels, and especially at community levels. Policies and programs should be built around the needs of families. In this regard, the critical role that parents play in shaping a healthy environment conducive to school readiness must be recognized as a key element of strategies to achieve the

readiness goal. It is important to engage professional organizations and other private sector groups involved with health, education, and other children's issues to work with government and families to achieve the school readiness goal and its related health objectives.

Not Just for Young Children

While being healthy and ready to learn is especially true for young children, it is also crucial that children of all ages move toward the same goal. Every child, throughout their school career, should have the opportunity to arrive at school healthy and ready to learn each day. School programs need to recognize the bidirectional connection between health and education—children must be healthy in order to be educated and children must be educated in order to stay healthy. This connection should be fostered through educational curriculums and by the provision of a safe and healthy school environment conducive to learning.

National Education Goals 2 and 6, and the related National Health Promotion and Disease Prevention Objectives, support this vital health and education connection for children of all ages (see accompanying box).

Conclusion

The interface between the National Education Goals and the National Health Promotion and Disease Prevention Objectives points out the close interrelationship between health and education and their critical link to related social services. The development of these goals and objectives represents a consensus that these are matters of importance to the nation, and they present a road map for change and an impetus toward improvement. The Department of Education, working with the Department of Health and Human Services, recently developed guideposts for achieving National Education Goal 1 (27).

Collaborations such as this must be fostered. The goal is too large to be left to single entities. Organizations, government agencies, communities and persons dedicated to achieving each of these sets of goals and objectives must find a way to work together. The health, education, and related social service needs of children and their families can no longer be approached categorically.

When the day comes that all children in America start school healthy and ready to learn, it will be because of the success of these partnerships and

collaboration between the health, education, and social services communities and the parents of America's children.

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Healthy People 2000 Objectives and the National Education Goals

National Education Goal 1: By the year 2000, all children in America will start school ready to learn.

National Education Objective—All disadvantaged and disabled children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school.

Related National Health Promotion and Disease Prevention Objective:

8.3: Achieve for all disadvantaged children and children with disabilities access to high quality and developmentally appropriate preschool programs that help prepare children for school, thereby improving their prospects with regard to school performance, problem behaviors, and mental and physical health.

National Education Objective—Every parent in America will be a child's first teacher and devote time each day helping his or her preschool child learn; parents will have access to the training and support they need.

National Education Objective—Children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies, and the number of low birthweight babies will be significantly reduced through enhanced prenatal health systems.

Children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies...

Related National Health Promotion and Disease Prevention Objectives:

Nutrition

2.4: Reduce growth retardation among low-income children aged 5 and younger to less than 10 percent.

2.5: Reduce dietary fat intake to an average of 30 percent of calories or less and average saturated fat intake to less than 10 percent of calories among people aged 2 and older.

2.10: Reduce iron deficiency to less than 3 percent among children aged 1 through 4 and among women of childbearing age.

2.11: Increase to at least 75 percent the proportion of mothers who breastfeed their babies in the early postpartum period and to at least 50 percent the proportion who continue breastfeeding until their babies are 5 to 6 months old.

2.12: Increase to at least 75 percent the proportion of parents and caregivers who use feeding practices that prevent baby bottle tooth decay.

2.17: Increase to at least 90 percent the proportion of school lunch and breakfast services and child care food services with menus that are consistent with the nutrition principles in the Dietary Guideline for Americans.

2.19: Increase to at least 75 percent the proportion of

the Nations's schools that provide nutrition education from preschool through 12th grade, preferably as part of quality school health education.

2.21: Increase to at least 75 percent the proportion of primary care providers who provide nutrition assessment and counseling and/or referral to qualified nutritionists or dietitians.

Tobacco

3.8: Reduce to no more than 20 percent the proportion of children aged 6 and younger who are regularly exposed to tobacco smoke at home.

Mental Health and Mental Disorders

6.3: Reduce to less than 10 percent the prevalence of mental disorders among children and adolescents.

6.14: Increase to at least 75 percent the proportion of providers of primary care for children who include assessment of cognitive, emotional, and parent-child functioning, with appropriate counseling, referral, and followup, in their clinical practices.

Violent and Abusive Behavior

7.1a: Reduce homicides among children aged 3 and younger to no more than 3.1 per 100,000.

7.4: Reverse to less than 25.2 per 1,000 children the rising incidence of maltreatment of children younger than age 18.

7.13: Extend to at least 45 States implementation of unexplained child death review systems.

7.14: Increase to at least 30 the number of States in which at least 50 percent of children identified as physically or sexually abused receive physical and mental evaluation with appropriate followup as a means of breaking the intergenerational cycle of abuse.

7.15: Reduce to less than 10 percent the proportion of battered women and their children turned away from emergency housing due to lack of space.

Education and Community-Based Programs

8.4: Increase to at least 75 percent the proportion of the Nation's elementary and secondary schools that provide planned and sequential kindergarten through 12th grade quality school health education.

Unintentional Injuries

9.3a: Reduce deaths caused by motor vehicle crashes to

no more than 5.5 per 100,000 among children aged 14 and younger.

9.5a: Reduce drowning deaths to no more than 2.3 per 100,000 among children aged 4 and younger.

9.6a: Reduce residential fire deaths to no more than 3.3 per 100,000 among children aged 4 and younger.

9.8a: Reduce nonfatal poisoning among children aged 4 and younger to no more than 520 emergency department treatments per 100,000 children.

9.12a: Increase use of occupant protection systems, such as safety belts, inflatable safety restraints, and child safety seats, to at least 95 percent of children aged 4 and younger who are motor vehicle occupants.

9.13: Increase use of helmets to at least 80 percent of motorcyclists and at least 50 percent of bicyclists.

9.15: Enact in 50 States laws requiring that new handguns be designed to minimize the likelihood of discharge by children.

9.18: Provide academic instruction on injury prevention and control, preferably as part of quality school health education, in at least 50 percent of public school systems (grades K through 12).

9.21: Increase to at least 50 percent the proportion of primary care providers who routinely provide age-appropriate counseling on safety precautions to prevent unintentional injury.

9.22: Extend to 50 States emergency medical services and trauma systems linking prehospital, hospital, and rehabilitation services in order to prevent trauma deaths and long-term disability.

Environmental Health

11.1b: Reduce asthma morbidity, as measured by a reduction in asthma hospitalizations, to no more than 225 per 100,000 among children aged 14 and younger.

11.4: Reduce the prevalence of blood lead levels exceeding 15 micrograms per deciliter and 25 micrograms per deciliter among children aged 6 months through 5 years to no more than 500,000 and zero, respectively.

11.4a: Reduce the prevalence among inner city low-income black children (annual family income less than \$6,000 in 1984 dollars) to no more than 75,000 and zero.

Oral Health

13.1: Reduce dental caries (cavities) so that the propor-

tion of children with one or more caries (in permanent or primary teeth) is no more than 35 percent among children aged 6 through 8 and no more than 60 percent among adolescents aged 15.

13.2: Reduce untreated dental caries so that the proportion of children with untreated caries (in permanent or primary teeth) is no more than 20 percent among children aged 6 through 8, and no more than 15 percent among adolescents aged 15.

13.8: Increase to at least 50 percent the proportion of children who have received protective sealants on the occlusal (chewing) surfaces of permanent molar teeth.

13.9: Increase to at least 75 percent the proportion of people served by community water systems providing optimal levels of fluoride.

13.10: Increase use of professionally or self-administered topical or systemic (dietary) fluorides to at least 85 percent of people not receiving optimally fluoridated public water.

13.12: Increase to at least 90 percent the proportion of all children entering school programs for the first time who have received an oral health screening, referral, and followup for necessary diagnostic, preventive, and treatment services.

13.15: Increase to at least 40 the number of States that have an effective system for recording and referring infants with cleft lips and/or palates to craniofacial anomaly teams.

Maternal and Infant Health

14.15: Increase to at least 95 percent the proportion of newborns screened by State-sponsored programs for genetic disorders and other disabling conditions and to 90 percent the proportion of newborns testing positive for disease who receive appropriate treatment.

14.16: Increase to at least 90 percent the proportion of babies aged 18 months and younger who receive recommended primary care services at the appropriate intervals.

Chronic Disabling Conditions

17.4: Reduce to no more than 10 percent the proportion of people with asthma who experience activity limitation.

17.8: Reduce the prevalence of serious mental retardation in school-aged children to no more than 2 per 1,000.

17.15: Increase to at least 80 percent the proportion of providers of primary care for children who routinely refer or screen infants and children for impairments of

vision, hearing, speech and language, and assess other developmental milestones as part of well-child care.

17.16: Reduce the average age at which children with significant hearing impairment are identified to no more than 12 months.

17.20: Increase to 50 the number of States that have service systems for children with or at risk of chronic and disabling conditions, as required by Public Law 101-239.

Immunization and Infectious Disease

20.1: Reduce indigenous cases of vaccine-preventable diseases as follows:

<i>Disease</i>	<i>1988 baseline</i>	<i>2000 target</i>
Diphtheria among people 25 and younger	1	0
Tetanus among people aged 25 and younger ..	3	0
Polio (wild-type virus)	0	0
Measles	3,058	0
Rubella	225	0
Congenital Rubella Syndrome	6	0
Mumps	4,866	500
Pertussis	3,450	1,000

20.7: Reduce bacterial meningitis to no more than 4.7 cases per 100,000 people.

20.8: Reduce infectious diarrhea by at least 25 percent among children in licensed child care centers and children in programs that provide an Individualized Education Program (IEP) or Individualized Health Plan (IHP).

20.9: Reduce acute middle ear infections among children aged 4 and younger, as measured by days of restricted activity or school absenteeism, to no more than 105 days per 100 children.

20.10: Reduce pneumonia-related days of restricted activity as follows: children aged 4 and younger, 24 days per 100 children.

20.11: Increase immunization levels as follows: basic immunization series among children under age 2 to at least 90 percent; basic immunization series among children in licensed child care facilities and kindergarten through post-secondary education institutions to at least 95 percent.

20.13: Expand immunization laws for schools, pre-schools, and day care settings to all States for all antigens.

20.14: Increase to at least 90 percent the proportion of primary care providers who provide information and counseling about immunizations and offer immunizations as appropriate for their patients.

20.15: Improve the financing and delivery of immunizations for children and adults so that virtually no American has a financial barrier to receiving recommended immunizations.

Clinical Preventive Services

21.2a: Increase to at least 90 percent the proportion infants up to 24 months who have received, as a minimum within the appropriate interval, all of the screening and immunization services and at least one of the counseling services appropriate for their age and sex as recommended by the U.S. Preventive Service Task Force.

21.2b: Increase to at least 80 percent the proportion of children 2–12 years who have received, as a minimum within the appropriate interval, all of the screening and immunization services and at least one of the counseling services appropriate for their age and sex as recommended by the U.S. Preventive Services Task Force.

21.3: Increase to at least 95 percent the proportion of people who have a specific source of ongoing primary care for coordination of their preventive and episodic health care.

21.4: Improve financing and delivery of clinical preventive services so that virtually no American has a financial barrier to receiving, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

21.5: Assure that at least 90 percent of people for whom primary care services are provided directly by publicly funded programs are offered, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

.....and the number of low birthweight babies will be significantly reduced through enhanced prenatal health systems.

Related Health Promotion and Disease Evaluation Objectives:

Nutrition

3.7: Increase smoking cessation during pregnancy so that at least 60 percent of women who are cigarette smokers at the time they become pregnant quit smoking early in pregnancy and maintain abstinence for the remainder of their pregnancy.

Maternal and Infant Health

14.1: Reduce the infant mortality rate to no more than 7 per 1,000 live births.

14.2: Reduce the fetal death rate (20 or more weeks of gestation) to no more than 5 per 1,000 live births plus fetal deaths.

14.3: Reduce the maternal mortality rate to no more than 3.3 per 100,000 live births.

14.4: Reduce the incidence of fetal alcohol syndrome to no more than 0.12 per 1,000 live births.

14.5: Reduce low birth weight to an incidence of no more than 5 percent of live births and very low birth weight to no more than 1 percent of live births.

14.6: Increase to at least 85 percent the proportion of mothers who achieve the minimum recommended weight gain during their pregnancies.

14.7: Reduce severe complications of pregnancy to no more than 15 per 100 deliveries.

14.8: Reduce the cesarean delivery rate to no more than 15 per 100 deliveries.

14.10: Increase abstinence from tobacco use by pregnant women to at least 90 percent and increase abstinence from alcohol, cocaine, and marijuana by pregnant women by at least 20 percent.

14.11: Increase to at least 90 percent the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy.

14.12: Increase to at least 60 percent the proportion of primary care providers who provide age-appropriate preconception care and counseling.

14.13: Increase to at least 90 percent the proportion of women enrolled in prenatal care who are offered screening and counseling on prenatal detection of fetal abnormalities.

14.14: Increase to at least 90 percent the proportion of pregnant women and infants who receive risk-appropriate care.

National Education Goal 2: By the year 2000, the high school graduation rate will increase to at least 90 percent.

National Education Objective—The nation must dramatically reduce its dropout rate and 75 percent of those students who do drop out will successfully complete a high school degree or its equivalent.

Related National Health Promotion and Disease Prevention Objective:

8.2: Increase the high school graduation rate to at least

90 percent, thereby reducing risks for multiple problem behaviors and poor mental and physical health.

National Education Goal 6: By the year 2000, every school will be free of drugs and violence and will offer a disciplined environment conducive to learning.

National Education Objective—Every school will implement a firm and fair policy on use, possession, and distribution of drugs and alcohol.

Related National Health Promotion and Disease Prevention Objectives:

Tobacco

3.5: Reduce the initiation of cigarette smoking by children and youth so that no more than 15 percent have become regular cigarette smokers by age 20.

3.9: Reduce smokeless tobacco use by males aged 12 through 24 to a prevalence of no more than 4 percent.

3.10: Establish tobacco-free environments and include tobacco use prevention in the curricula of all elementary, middle, and secondary schools, preferably as part of comprehensive school health education.

3.11: Increase to at least 75 percent the proportion of worksites (includes schools) with a formal smoking policy that prohibits or severely restricts smoking at the workplace.

3.12: Enact in 50 States comprehensive laws on clean indoor air that prohibit or strictly limit smoking in the workplace and enclosed public places (including health care facilities, schools, and public transportation).

3.13: Enact and enforce in 50 States laws prohibiting the sale and distribution of tobacco products to youth younger than age 19.

3.14: Increase to 50 the number of States with plans to reduce tobacco use, especially among youth.

3.15: Eliminate or severely restrict all forms of tobacco product advertising and promotion to which youth younger than 18 are likely to be exposed.

3.16: Increase to at least 75 percent the proportion of primary care and oral health care providers who routinely advise cessation and provide assistance and follow-up for all of their tobacco-using patients.

Alcohol and Other Drugs

4.5: Increase by at least 1 year the average age of first use of cigarettes, alcohol, and marijuana by adolescents aged 12 through 17.

4.6: Reduce the proportion of young people who have used alcohol, marijuana, and cocaine in the past month.

4.7: Reduce the proportion of high school seniors and college students engaging in recent occasions of heavy drinking of alcoholic beverages to no more than 28 percent of high school seniors and 32 percent of college students.

4.11: Reduce to no more than 3 percent the proportion of male high school seniors who use anabolic steroids.

4.12: Establish and monitor in 50 States comprehensive plans to ensure access to alcohol and drug treatment programs for traditionally underserved people.

4.14: Extend adoption of alcohol and drug policies for the work environment to at least 60 percent of worksites (includes schools) with 50 or more employees.

National Education Objective—Every school district will develop a comprehensive K–12 drug and alcohol prevention education program. Drug and alcohol curriculum should be taught as an integral part of health education. In addition, community-based teams should be organized to provide students and teachers with needed support.

Related National Health Promotion and Disease Prevention Objectives:

Alcohol and Other Drugs

4.9: Increase the proportion of high school seniors who perceive social disapproval associated with the heavy use of alcohol, occasional use of marijuana, and experimentation with cocaine.

4.10: Increase the proportion of high school seniors who associate risk of physical or psychological harm with the heavy use of alcohol, regular use of marijuana, and experimentation with cocaine.

4.13: Provide to children in all school districts and private schools primary and secondary school educational programs on alcohol and other drugs, preferably as part of quality school health education.

Education and Community-Based Programs

8.4: Increase to at least 75 percent the proportion of the nation's elementary and secondary schools that provide planned and sequential kindergarten through grade 12 quality school health education.

8.9: Increase to at least 75 percent the proportion of people aged 10 and older who have discussed issues related to nutrition, physical activity, sexual behavior, tobacco, alcohol, other drugs, or safety with family members on at least one occasion during the preceding month.

Other National Health Promotion and Disease Prevention Objectives related to National Education Goal 6:

Violent and Abusive Behavior

7.1: Reduce homicides to no more than 7.2 per 100,000 people.

7.2a: Reduce suicides to no more than 8.2 per 100,000 youth aged 15—19.

7.3: Reduce weapon-related violent deaths to no more than 12.6 per 100,000 people from major causes.

7.4: Reverse to less than 25.2 per 1,000 children the rising incidence of maltreatment of children younger than age 18.

7.6: Reduce assault injuries among people aged 12 and

older to no more than 10 per 1,000 people.

7.7: Reduce rape and attempted rape of women aged 12 and older to no more than 107 per 100,000 women.

7.9: Reduce by 20 percent the incidence of physical fighting among adolescents aged 14 through 17.

7.10: Reduce by 20 percent the incidence of weapon-carrying by adolescents aged 14 through 17.

7.16: Increase to at least 50 percent the proportion of elementary and secondary schools that teach nonviolent conflict resolution skills, preferably as a part of quality school health education.

7.17: Extend coordinated, comprehensive violence prevention programs to at least 80 percent of local jurisdictions with populations over 100,000.

Developing Cancer Control Capacity in State and Local Public Health Agencies

HELEN I. MEISSNER, ScM, CHES
LAWRENCE BERGNER, MD, MPH
KATHERINE M. MARCONI, PhD

Ms. Meissner is Public Health Adviser, Public Health Applications Research Branch (PHARB), Division of Cancer Prevention and Control, National Cancer Institute, Bethesda, MD. Dr. Bergner is Program Director, PHARB. Dr. Marconi was Chief, PHARB, and is now Associate Director for Science and Epidemiology, Bureau of Health Resources Development, Health Resources and Services Administration.

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Tearsheet requests to Ms. Meissner, National Cancer Institute, Executive Plaza North, Room 239, 9000 Rockville Pike, Bethesda, MD 20892.

Synopsis

In 1986, the National Cancer Institute began a major grant program to enhance the technical

capabilities of public health departments in cancer prevention and control. This effort, commonly referred to as “capacity building” for cancer control, provided funding to support eight State and one local health department.

The program focused on developing the knowledge and skills of health department personnel to implement intervention programs in such areas as smoking cessation, diet modification, and breast and cervical cancer screening. The grants ranged from 2 to 5 years in length, with funding of \$125,000 to \$1.6 million per grant. The total for the program was \$7.4 million.

While the priorities set for these grants were nominally similar, their capacity building activities in cancer prevention and control evolved into unique interventions reflecting the individual needs and priorities of each State or locality. Their experiences illustrate that technical development for planning, implementing, and evaluating cancer prevention and control programs is a complex process that must occur at multiple levels, regardless of overall approach.

Factors found to contribute to successful implementation of technical development programs include

- *commitment of the organization’s leadership to provide adequate support for staff and activities*